IN THE CLAIMS:

1.   (Currently Amended) A method of providing broadband communications over a hybrid fiber coaxial ("HFC") communication system, the method comprising:

receiving downstream voice video and data communications in a headend;

receiving into a user gateway located in a customer premise, upstream voice video and data communications from customer premise equipment; and

providing the downstream voice video and data communications from the headend to the user gateway at a synchronous optical network ("SONET") transmission rate, wherein providing the downstream video communications from the headend to the user gateway includes using asynchronous transfer mode protocol, Internet protocol, MPEG format, code division multiplexing, or combinations thereof; and

providing the upstream voice video and data communications from the user gateway to the headend at the SONET transmission rate, wherein providing the upstream video communications from the user gateway to the headend includes using asynchronous transfer mode protocol, internet protocol, MPEG format, code division multiplexing, or combinations thereof.

2.   (Original) The method of claim 1 wherein providing the downstream voice video and data communications from the headend to the user gateway at the SONET transmission rate comprises:

providing over an optical communication link an optical carrier transmission including the downstream voice video and data communications from the headend to an optical to electrical conversion node;

in the optical to electrical conversion node, converting the optical carrier transmission into an electrical equivalent transmission; and

in the optical to electrical conversion node, providing the electrical equivalent transmission to the user gateway.

3.   (Original) The method of claim 2, wherein providing the upstream voice video

and data communications from the user gateway to the headend at the SONET transmission rate comprises:

in the user gateway, providing the electrical equivalent of the optical carrier transmission including the upstream voice video and data communications to the optical to electrical conversion node;

in the optical to electrical conversion node, converting the electrical equivalent of the optical carrier transmission rate to the optical carrier transmission rate; and

in the optical to electrical conversion node, providing the optical carrier transmission to the headend.

4.   (Currently Amended) The method of claim 3, the method comprising:

providing the downstream voice video and data communications using an asynchronous transfer mode protocol; and

providing the upstream voice video and data communications from the user gateway to the headend using the asynchronous transfer mode protocol.

5.   (Currently Amended) The method of claim 3, the method comprising:

providing the downstream voice video and data communications from the headend to the user gateway using an internet protocol; and

providing the upstream voice video and data communications from the user gateway to the headend using the internet protocol.

6.   (Original) The method of claim 3, the method comprising:

compressing the upstream video communications using an MPEG format; and

compressing the downstream video communications using the MPEG format.

7.   (Currently Amended) The method of claim 3, the method comprising:

providing the downstream voice video and data communications from the headend to the user gateway using code division multiplexing; and

providing the upstream voice video and data communications from the user gateway to

the headend using code division multiplexing.

8.   (Original) The method of claim 3, the method comprising:
providing the downstream voice video and data communications from the headend to the user gateway using time division multiplexing; and

providing the upstream voice video and data communications from the user gateway to the headend using time division multiplexing.

9.   (Original) The method of claim 3, wherein the optical carrier transmission is at least an optical carrier twelve transmission.

10.   (Original) The method of claim 3, wherein the electrical equivalent of the optical carrier transmission rate is a synchronous transport signal twelve transmission.

11.   (Original) The method of claim 3 wherein the electrical equivalent of the optical carrier transmission rate is a synchronous transfer module transmission.

12.   (Original) The method of claim 1 wherein the step of receiving upstream voice video and data communications in the user gateway comprises:
receiving a video request for a video transmission from a video device connected to the user gateway;

receiving a data request for a data transmission from a data device connected to the user gateway; and

receiving upstream voice communications from a call device connected to the user gateway.

13.   (Original) The method of claim 12 wherein the step of providing the upstream voice video and data communications from the user gateway to the headend at the SONET transmission rate comprises:
providing the video request to the headend at the SONET transmission rate;

providing the data request to the headend at the SONET transmission rate; and

providing the upstream voice communications to the headend at the SONET transmission rate.

14.   (Original) The method of claim 13 wherein the step of providing the downstream voice video and data communications between the headend and the user gateway at the SONET transmission rate comprises:

in the headend, processing the video request to provide the requested video transmission to the user gateway at the SONET transmission rate;

in the headend, processing the data request to provide the requested data transmission to the user gateway; and

in the headend, providing downstream voice communications from the headend to the user gateway at the SONET transmission rate.

15.   (Original) The method of claim 14 the method comprising:

in the user gateway, providing the requested video transmission directly to the video device, wherein the video device is configured to display the requested video transmission to the user.

16.   (Original) The method of claim 14 the method comprising:

in the user gateway, providing the requested data transmission directly to the data device, wherein the data device is configured to display the requested data transmission to the user.

17.   (Original) The method claim 14 the method comprising:

exchanging the upstream and downstream voice communications directly between the user gateway and the call device.

18.   (Currently Amended) A hybrid fiber coaxial ("HFC") communication system comprising:

a broadband terminal configured to provide a first transmission comprising downstream

voice video and data traffic over an optical communication link using an optical carrier transmission rate and receive a second transmission comprising upstream voice video and data traffic using the optical carrier transmission rate;

an optical to electrical conversion node configured to receive the first transmission from the broadband terminal over the optical communication link convert the first transmission to an electrical equivalent of the optical carrier transmission rate, transmit the first transmission over a coaxial communication link, receive the second transmission over the coaxial communication link, convert the second transmission from the electrical equivalent of the optical carrier transmission rate to the optical carrier transmission rate and provide the second transmission over the optical communication link to the broadband terminal; and

a user gateway configured to receive the first transmission from the optical to electrical conversion node, provide voice communications directly to a voice device, provide data communications directly to a data device configured to display the data communications for a user, provide video communications directly to a video device configured to display the video communications for the user, and generate the second transmission and transmit the second transmission at the electrical equivalent of the optical carrier transmission rate to the optical to electrical conversion node, wherein the first transmission and the second transmission are SONET transmissions using asynchronous transfer mode protocol, internet protocol, MPEG format, code division multiplexing, time division multiplexing, or a combinations thereof.

19.   (Canceled)

20.   (Canceled)

21.   (Currently Amended) The system of claim 18 wherein the video communications are compressed using the -an-MPEG format.

22.   (Canceled)

23.   (Canceled)

24. (Original) The system of claim 18 wherein the optical carrier transmission rate is at least an optical carrier twelve transmission rate.

25. (Original) The system of claim 18 wherein the electrical equivalent of the optical carrier transmission rate is a synchronous transport signal twelve transmission rate.

26. (Original) The system of claim 18 wherein the electrical equivalent of the optical carrier transmission rate is a synchronous transport module transmission rate.

27. (Original) The system of claim 18 wherein the user gateway is configured to generate and provide a video request for a video transmission to the broadband terminal and the broadband terminal is configured to process the video request to provide the requested video transmission to user gateway.

28. (Original) The system of claim 18 wherein the user gateway is configured to generate and provide a data request for a data transmission to the broadband terminal and the broadband terminal is configured to process the data request to provide the requested data transmission to user gateway.

29. (Original) The system of claim 18 wherein the user gateway is configured to generate and provide a call request for a call to the broadband terminal and the broadband terminal is configured to process the call request to connect a call to user gateway

30. (Currently Amended) A user gateway configured to exchange voice video and data traffic between a headend and a call device configured for voice communication, a data device configured to display data information, and a video device configured to display video information, the user gateway comprising:

call processing means configured to receive a call request from the call device and process the call request to set up a call over the headend between the call device and a

terminating call device;

video processing means configured to receive a video channel request from the video device and process the video channel request to provide a requested video channel from the headend to the video device;

data processing means configured to receive a data request message from the data device and process the data request message to provide requested data from the headend to the data device; and

SONET transport means configured to exchange call traffic including the call, video traffic including the video channel, and data traffic including the requested data between the user gateway and the headend at a SONET transmission rate, wherein the SONET transport means exchange at least the video traffic between the user gateway and the headend using an asynchronous transport protocol, an internet protocol, code division multiple access multiplexing, time division multiple access multiplexing, MPEG compression format or a combination thereof.

31.   (Currently Amended) The user gateway of claim 30 wherein the SONET transport means is configured to exchange the call traffic, video traffic, and data traffic between the user gateway and the headend using an asynchronous transport protocol.

32.   (Currently Amended) The user gateway of claim 30 wherein the SONET transport means is configured to exchange the call traffic, video traffic, and data traffic between the user gateway and the headend using an internet protocol.

33.   (Original) The user gateway of claim 30 wherein the SONET transmission rate is a synchronous transport signal.

34.   (Original) The user gateway of claim 30 wherein the SONET transmission rate is a synchronous transport module.

35.   (Currently Amended) The user gateway of claim 30 wherein the SONET

transport means is configured to exchange the call traffic, ~~video traffic,~~ and data traffic between the user gateway and the headend using code division multiple access multiplexing.

36.	(Currently Amended) The user gateway of claim 30 wherein the SONET transport means is configured to exchange the call traffic, ~~video traffic,~~ and data traffic between the user gateway and the headend using time division multiple access multiplexing.

37.	(Canceled)

38.	(Original) The user gateway of claim 30 wherein the call device is a telephone.

39.	(Original) The user gateway of claim 29 wherein the data device is a computer.

40.	(Original) The user gateway of claim 29 wherein the video device is a television.